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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,557	07/16/2004	Ronan Garrec	25526US0PCT	5138

22850 7590 08/30/2006

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EXAMINER

SELLMAN, CACHET I

ART UNIT PAPER NUMBER

1762

DATE MAILED: 08/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,557	<b>Applicant(s)</b> GARREC ET AL.	
	<b>Examiner</b> Cachet I. Sellman	<b>Art Unit</b> 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) 16-18 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-15 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/16/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of claims 11-15 and 19 in the reply filed on 7/14/2006 is acknowledged. The traversal is on the ground(s) that the applicant argues that the Hiramoto reference teaches oxidation of an article surface where the applicants invention is drawn to treating organic pollution therefore the two are materially different processes. This is not found persuasive because in col. 1, lines 11-28 of the Hiramoto reference (EP 0661110 A1) it states that the "invention relates to a process for the removal of impurities of organic compounds which have accumulated on a surface of a metal or a glass plate" therefore the Hiramoto reference like the applicant is directed to treating organic pollution therefore the lack of unity is valid.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Objections***

2. Claim 19 is objected to because of the following informalities: The word "to" in line 2 of the claim should be removed. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11-15 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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5. In claim 11 the applicant has the limitation of "optionally washing said substrate" it should be noted that this limitation because of the word "optionally" is not required and therefore the examiner will give it its broadest interpretation that the substrate is not washed. Also in claim 11, the applicant states that the substrate can comprise "a particular surface morphology" it is unclear to the examiner as to what is meant by "particular surface morphology" the applicant failed to clearly define this statement therefore the examiner will assume that any substrate has a particular surface morphology.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiramoto et al. (EP 0661110 A1).

Hiramoto et al. discloses a process for treating organic pollution (col. 1, lines 11-14) which comprises the step of treating a substrate with ozone UV radiation (col. 1, lines 21-28) where the substrate is glass or metal (col. 1, lines 13-14) as required by **claim 11**. The substrate has a contact angle of 3 degrees (col. 9, lines 47-55) therefore it is hydrophilic as required by **claim 13**.

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8. Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kittler (US 4917963).

Kittler discloses a method for treating organic pollution, which comprises the step of treating a substrate with an electrical treatment where the substrate can comprise glass or a metallic material (col. 3, lines 47-65) as required by **claim 11**. The electrical treatment used can be corona discharge (col. 3, lines 60-64) as required by **claim 12**.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 11, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chopin et al. (US 6037289) in view of Hiramoto et al. (EP 0661110 A1).

Chopin et al. discloses a process of coating a substrate, such as glass, with a coating having a photocatalytic property such as titanium oxide in the anatase form to remove dirty marks of organic origin from the substrate such as finger marks, or volatile organic products in the atmosphere. When UV radiation of a certain wavelength is provided to the substrate the components initiate radical reactions, which cause oxidation of the organic products (abstract, col. 1, lines 16-63, col. 6, lines 62-22).

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Chopin et al. does not teach the use of UV with ozone to remove the organic impurities as required by **claim 11**.

Hiramoto discloses a process of removing organic impurities from a glass substrate by using ozone with UV without damage to the substrate and with an increase in the rate of oxidation treatment of the organic impurities on the substrate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Chopin et al. to include the ozone and UV treatment of Hiramoto. One would have been motivated to do so because both disclose processes for treating organic impurities on glass substrates using UV and Hiramoto et al. further teaches that the addition of ozone increases oxidation rate without damage to the substrate therefore one would have a reasonable expectation of success in removing the organic impurities with the benefits taught by Hiramoto et al.

The substrate is hydrophilic and/or oleophilic (col. 6, lines 39-44) as required by **claim 13**. Chopin et al. further teaches that the photocatalytic coating can comprise silicon oxide (column 18, lines 41-44) as required by **claim 14**. As stated above the substrate comprises a layer of titanium oxide in the anatase or rutile form (col. 2, lines 53-60) as required by **claim 15**.

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Chopin et al. teaches that the substrate can comprise a multiple glazing unit comprising monolithic glass (col. 6, lines 62- col. 76, line 17) as required by **claim 19**.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cachet I. Sellman whose telephone number is 571-272-0691. The examiner can normally be reached on Monday through Friday, 7:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cachet I Sellman  
Examiner  
Art Unit 1762

  
**TIMOTHY MEEKS**  
SUPERVISORY PATENT EXAMINER

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